CEMVP-PM-A 3 August 2004

MEMORANDUM FOR RECORD

SUBJECT: Project Delivery Team Meeting – Roseau, Minnesota Feasibility Study, Roseau River

1. On Tuesday, July 27, 2004 beginning at 10:15 am the subject coordination meeting was conducted in the Executive Conference Room of the district office. Fourteen persons attended this. Participants at this meeting included City Officials, Roseau River Watershed District, Minnesota Department of Natural Resources, Barr Engineering, and the Corps Study Team. A sign-in roster listing the meeting participants is attached as enclosure 1.

2. The purpose of this delivery team meeting was to discuss the ongoing plan formulation team efforts associated with the Roseau River Feasibility Study. The focus of the meeting was to present findings of preliminary screening efforts to the Sponsor and agency representatives.

3. Noteworthy items coordinated and discussed during the meeting included:

- The study funding situation was addressed; it was shown that $50K in additional funds were requested -- $25K each for local and federal. Note: There is a funding shortfall for the remaining FY and action is required to secure additional funds to insure that the study progress can be maintained.
- Corps H&H delivery team members presented current thinking regarding changes to the historic record and associated discharge graphs -- which have result in changes to the flood water surface profiles in Roseau. It was shown that the water surface profile for the 100-year event had dropped from earlier FIS mapping and Section 905b analysis. The Corps team displayed line graphs showing the revised100-year elevation in comparison to recent past events in Roseau. See enclosure 2 details.
- In relation to the changing stage, new preliminary estimates of the number of effected structures were presented in regards to an economic analysis. It was noted that with a lower 100-year stage it will remove some benefits from buildings that are no longer in the 100-year flood plain, while at the same time reducing the costs to protect the city because smaller levees or diversion channels could be used to provide the desired level of protection.
- It was noted that the frequency damage curves for Roseau is unique in that it receives many benefits at the tail end of the curve, meaning that the benefits come at higher stages which end up being in areas which will have less

frequent events. This is in part due to the relatively higher elevation of Polaris Industries manufacturing buildings.

- The city and watershed representatives commented on the status of the West Interceptor project, there are some ongoing permit issues, which they expected to be wrapping up soon.
- There was discussion about wetland credits which may arise from the West Interceptor project, it is a self mitigating project and there may be additional wetland credits created, however, if they can be used for the Corps project is dependant on the type of funding used to create the wetland.
- The Corps presented maps of possible alignments of the diversion channels as well as for the proposed levees and discussed them with the local sponsors. General discussion followed regarding land ownership and what roads would be affected.
- There was a brief discussion about the costs of bridge relocations and raises, particularly for the railroad bridge. This discussion arose when discussing the alignment of the west diversion, which would partially use the same alignment of the West Interceptor project.
- Very preliminary economic estimates were presented that indicate how large of a project the benefits would support while having a benefit-cost ratio of 1.0 or greater. This currently is estimated to range from $9-12 million, depending on how the stage damage relationship was analyzed. See enclosure 3 for additional details.
- At the end of the meeting pictures were shown from the historic floods that took place in Roseau, showing that there is a long history of flooding in the community. These will be scanned for future Corps uses…

4. This Delivery Team meeting followed the agenda (attached as enclosure 4) and was well attended and contained a plethora of new information which will be used in the future plan formulation process. The next team meeting will be in approximately one month where more findings will be discussed with the local sponsors.

/s/

Ed McNally
Project Manager

Enclosures 4
Sign in Roster
Stage line graphs
Economic Ratios
Meeting Agenda

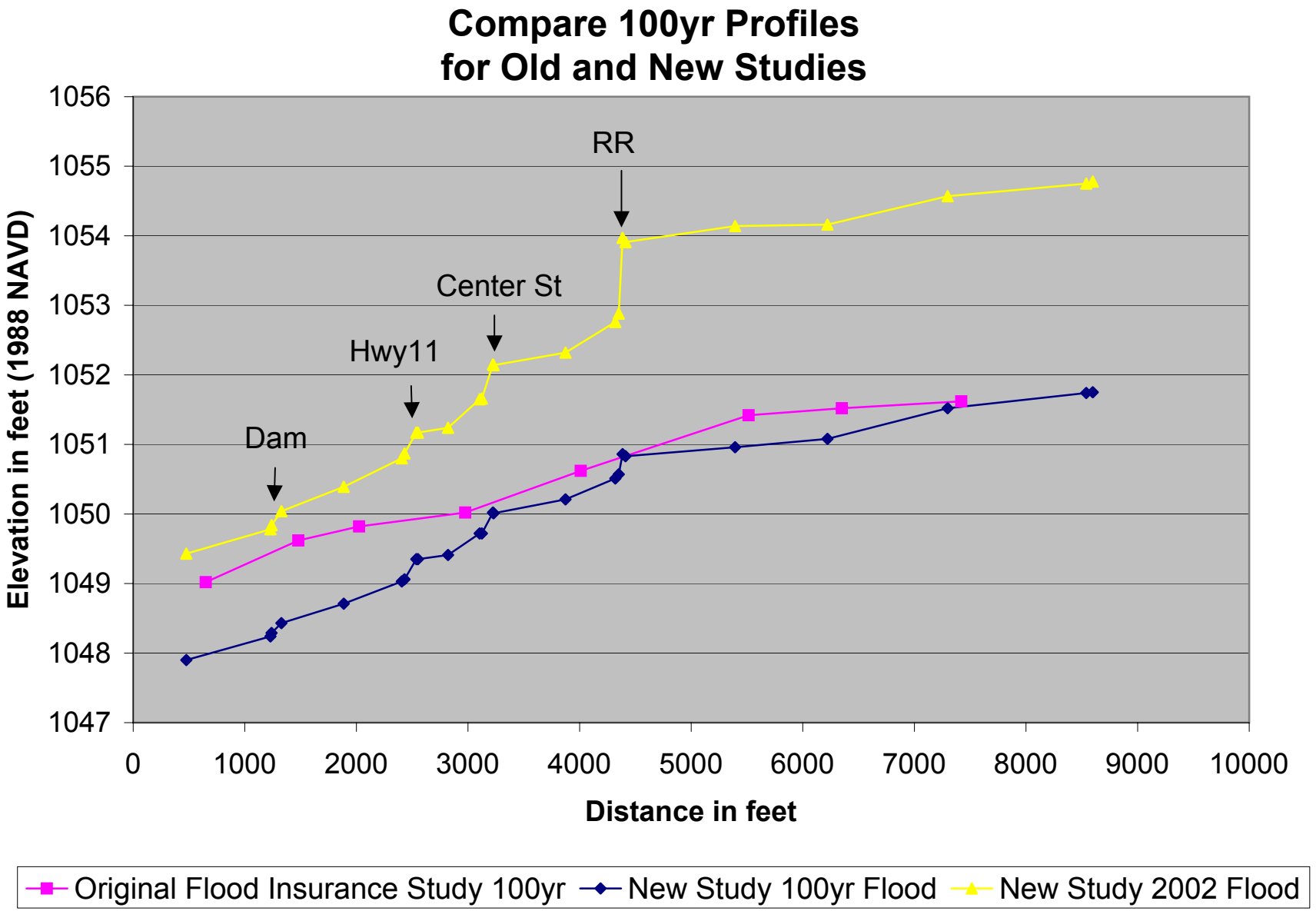
CF: All Meeting Participants (via email)

Subject: **Project Delivery Team Meeting – 27 July in Exec. Conf. Room of District Office**
RE: **Roseau, Minnesota – Flood Control Feasibility Study**

Sign-In Roster

	Name	*Organization*	*Email and/or Telephone*
1.	Ed McNally	PM-A	651-290-5387
2.	Todd Peterson	City of Roseau	218-463-5003
3.	Bill Spychulla	Barr Engr	952-832-2666
4.	John Albrecht	COE-RE	651-290-5386
5.	Kea Beck	COE-RE	651-290-5394
6.	Rica Carlson	PM-E	651-290-5259
7.	~~Scott~~ Goodfellow	PE-H	651-290-5635
8.	Aaron Snyder	PM-A	5489
9.	Richard Beatty	PM-E	5273
10.	Mark Davidson	PA	651-290-5201
11.	Gary Wolf	FDD	651-290-5688
12.	Ed Fick	MnDNR	651-215-1954
13.	Rob Sando	RRWD	218-463-0313
14.	Farrell Erickson	RRWD	218-528-3790
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			

Enclosure 1


Compare 100yr Profiles
for Old and New Studies
Elevation in feet (1988 NAVD)
1056
1055
1054
1053
1052
1051
1050
1049
1048
1047
RR
Center St
Hwy11
Dam
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
Distance in feet
Original Flood Insurance Study 100yr
New Study 100yr Flood
New Study 2002 Flood

Enclosure 2

AVERAGE ANNUAL PROGRAM

THROUGH 500 YEAR FLOOD RANGE
(THROUGH 100 YEAR FLOOD RANGE ON PAGE B)

COLUMN AK IS THE AVERAGE ANNUAL $'S OR ACRES
{Roseau, MN.} Average Annual Damages Worksheet

FREQUENCY in %	0	51	20 5 yr.	5 20 yr.	5 20 yr.	2 50 yr.	1 100 yr.	0.5 200 yr.	0.2 500 yr.	0	Average Annual Damages
CONDITION SET #1 DAMAGES											
DIRECT RES.	0	0	0	0	266,338	1,228,052	4,096,849	8,629,137	16,409,019	16,409,019	151,231
INDIRECT RES.	0	0	0	0	0	6,832,902	6,081,515	4,391,597	2,039,807	2,039,807	206,975
TOTAL RES.	0	0	0	0	266,338	8,060,954	10,178,364	13,020,734	18,448,826	18,448,826	358,206
COMMERCIAL	0	0	0	0	687	577,369	4,819,961	64,953,760	131,763,840	131,763,840	768,696
TOTAL ALL	0	0	0	0	267,025	8,638,323	14,998,325	77,974,494	150,212,666	150,212,666	1,126,902

Assumptions:
January 2003 Structure Inventory/Price Levels
5 5/8 % interest rate
Additional 30% claimed for other benefit categories (residenital only)

Total First Costs	$17,870,000
IDC	$1,012,250
	$18,882,250
Annualized First Costs	1,135,737
Annual O&M Cost	98,285
Average Annual Charges	1,234,000
Average Annual Benefits:	
Residential	358,200
Commercial	768,700
Other	107,500
	1,234,400
B/C Ratio	1.00
Net Benefits	400

Enclosure 3

AVERAGE ANNUAL PROGRAM

THROUGH 500 YEAR FLOOD RANGE
(THROUGH 100 YEAR FLOOD RANGE ON PAGE B)

COLUMN AK IS THE AVERAGE ANNUAL $'S OR ACRES
{Roseau, MN.} Average Annual Damages Worksheet

FREQUENCY in %	0	51	20 5 yr.	5 20 yr.	2.857 35 yr.	2 50 yr.	1 100 yr.	0.5 200 yr.	0.2 500 yr.	0	Average Annual Damages
CONDITION SET #1 DAMAGES											
DIRECT RES.	0	0	0	0	0	1,228,052	4,096,849	8,629,137	16,409,019	16,409,019	134,077
INDIRECT RES.	0	0	0	0	0	6,832,902	6,081,515	4,391,597	2,039,807	2,039,807	133,761
TOTAL RES.	0	0	0	0	0	8,060,954	10,178,364	13,020,734	18,448,826	18,448,826	267,838
COMMERCIAL	0	0	0	0	0	577,369	4,819,961	64,953,760	131,763,840	131,763,840	762,499
TOTAL ALL	0	0	0	0	0	8,638,323	14,998,325	77,974,494	150,212,666	150,212,666	1,030,337

Assumptions:
- January 2003 Structure Inventory/Price Levels
- 5 5/8 % interest rate
- Additional 30% claimed for other benefit categories (residenital only)

Total First Costs	$16,080,000
IDC	$910,860
	$16,990,860
Annualized First Costs	1,021,973
Annual O&M Cost	88,440
Average Annual Charges	1,110,400
Average Annual Benefits:	
Residential	267,800
Commercial	762,500
Other	80,400
	1,110,700
B/C Ratio	1.00
Net Benefits	300

AVERAGE ANNUAL PROGRAM

THROUGH 500 YEAR FLOOD RANGE
(THROUGH 100 YEAR FLOOD RANGE ON PAGE B)

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FREQUENCY in %	0	51	20 5 yr.	5 20 yr.	5 20 yr.	2 50 yr.	1 100 yr.	0.5 200 yr.	0.2 500 yr.	0.2 500 yr.	Average Annual Damages
CONDITION SET #1 DAMAGES											
DIRECT RES.	0	0	0	0	266,338	1,228,052	4,096,849	8,629,137	16,409,019	0	118,413
INDIRECT RES.	0	0	0	0	0	6,832,902	6,081,515	4,391,597	2,039,807	0	202,896
TOTAL RES.	0	0	0	0	266,338	8,060,954	10,178,364	13,020,734	18,448,826	0	321,308
COMMERCIAL	0	0	0	0	687	577,369	4,819,961	64,953,760	131,763,840	0	505,168
TOTAL ALL	0	0	0	0	267,025	8,638,323	14,998,325	77,974,494	150,212,666	0	826,476

Assumptions:
- January 2003 Structure Inventory/Price Levels
- 5 5/8 % interest rate
- Additional 30% claimed for other benefit categories (residenital only)

Total First Costs	$13,360,000
IDC	$756,780
	$14,116,780
Annualized First Costs	849,102
Annual O&M Cost	73,480
Average Annual Charges	922,600
Average Annual Benefits:	
Residential	321,300
Commercial	505,200
Other	96,400
	922,900
B/C Ratio	1.00
Net Benefits	300

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FREQUENCY in %	0	51	20 5 yr.	5 20 yr.	2.857 35 yr.	2 50 yr.	1 100 yr.	0.5 200 yr.	0.2 500 yr.	0.2 500 yr.	Average Annual Damages
CONDITION SET #1 DAMAGES											
DIRECT RES.	0	0	0	0	0	1,228,052	4,096,849	8,629,137	16,409,019	0	101,259
INDIRECT RES.	0	0	0	0	0	6,832,902	6,081,515	4,391,597	2,039,807	0	129,681
TOTAL RES.	0	0	0	0	0	8,060,954	10,178,364	13,020,734	18,448,826	0	230,940
COMMERCIAL	0	0	0	0	0	577,369	4,819,961	64,953,760	131,763,840	0	498,971
TOTAL ALL	0	0	0	0	0	8,638,323	14,998,325	77,974,494	150,212,666	0	729,911

Assumptions:
January 2003 Structure Inventory/Price Levels
5 5/8 % interest rate
Additional 30% claimed for other benefit categories (residenital only)

Total First Costs	$11,570,000
IDC	$655,390
	$12,225,390
Annualized First Costs	735,338
Annual O&M Cost	63,635
Average Annual Charges	799,000
Average Annual Benefits:	
Residential	230,900
Commercial	499,000
Other	69,300
	799,200
B/C Ratio	1.00
Net Benefits	200

Subject: **Delivery Team Meeting on 27 July 04 - in Exec. Conf. Rm. District Office**
RE: **Roseau Flood Control Feasibility Study**

A G E N D A

10:15 am START

Introductions and Welcome +++ Please sign the meeting attendance sheet +++

Funding Situation

Overview of Activities Since Last PDT Meeting

Hydrologic history, evaluations, and comparisons ---- changing discharge flow

Hydraulic model status and output comparisons ----- changing stage

Potential flood damages status and history ---- potential project size

Design Team Formulations and Findings

Levee Alternatives Evaluated and Findings
--- Designs, Costs, and Benefits and RE assumptions

Diversion Alternatives Evaluated and Findings
--- Designs, Costs, and Benefits and RE assumptions

Status of Other PDT Activities... (Discussion from PDT Reps Around the Room…)

Upcoming Events / Activities

Questions & Answers

Summarize Meeting Do-outs

11:40 pm **ADJOURN** PDT Meeting

11:45am **Re-Convene for Breakouts Session/s, As Needed**